THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 28

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte YASUO SASAKI,
MUNEKATSU FUKUYAMA, and
KAZUO KURIHARA

_____

Appeal No. 97-3918
Application 08/447,901[1]

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HEARD OCTOBER 14, 1998

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Before HAIRSTON, KRASS, and MARTIN, Administrative Patent Judges.

MARTIN, Administrative Patent Judge.

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[1] Application for patent filed May 23, 1995, as a continuation of Application Serial No. 08/146,708, filed November 1, 1993. Appellants claim the benefit under 35 U.S.C. § 119 of the following applications:

P04-293307	Japan	October 30, 1992
P05-058675	Japan	March 18, 1993
P05-097150	Japan	March 31, 1993

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the examiner's rejection of claims 2 and 9 under 35 U.S.C. §§ 102(b) and 103. The remaining application claims, i.e., claims 1, 3-8, and 10-18, were withdrawn from consideration by the examiner as directed to a nonelected species in paper No. 9. We reverse both rejections.

The invention is a playback circuit for a magnetic head of the magneto-resistive (MR) type. The prior art playback circuit shown in appellants' Figure 22, described in the specification at 2:24 to 3:20, includes a first-stage amplifier transistor 22 having its collector connected to one input of a differential-input gm amplifier 24, which functions as a voltage-to-current converting amplifier. The other input of gm amplifier 24 is connected to a source 25 of reference potential. The output of gm amplifier 24 is connected to one side of a capacitor 26, the other side of which is connected to ground. The output of gm amplifier 24 is also connected in a feedback path to the base of transistor 22. In order to conserve power, the power for the playback circuit is turned off during each recording operation (represented by signal

level 0 in Figure 23(A)), and the power for the recording circuit (not shown) is turned off during each playback operation (level 1 in Figure 23(A)) -- see Spec. at 3:21 to 4:10. If the rise or decay time of first stage amplifier 22 differs from that of gm amplifier 24, current spikes Ic1 and Ic2 flow through capacitor 26, as shown in Figure 23(D) (Spec. at 4:11 to 5:17). This has the effect of delaying the point in time when the voltage across capacitor 26 is stable enough to permit commencement of the next type of operation (Spec. at 5:17-20). Appellants' specification notes that while it is possible to shorten the capacitor charging/discharging time by increasing the gm value of amplifier 24, that would also have the undesirable effect of increasing the cut-off frequency of the low pass filter (defined by the gm value of the gm amplifier and the capacitance value of capacitor 26[2]), thereby disabling effective dc feedback (Spec. at 5:21-25).

Appellants disclose a number of techniques for dealing with the capacitor charging/discharging problem without disabling effective dc feedback, only one of which techniques

[2] Spec. at 3:9-13.

is before us in this appeal.[3] That technique, embodied in the playback circuit of appellants' Figure 5, employs a variable gain gm amplifier 24A (Spec. at 16:11-16), the gain of which is switched to a "high gm state during the time intervals T1 and T2 shown in Fig. 9D" (Spec. at 19:16-19), when the power source is turned on and also when head switching occurs (Spec. at 18:24 to 19:2). We note that Figure 9(D) is labeled "SECOND gm AMPLIFIER" because Figure 9 is used to illustrate the operation of each of the four playback circuits shown in Figures 5-8 (Spec. at 17:18 to 18:3), of which Figure 6 employs two gm amplifiers 24 and 41 (Spec. at 16:17-20). The examiner is therefore incorrect to state that Figure 9 does not depict the invention of Figure 5 (Answer at 3).

Claim 2, the only independent claim on appeal, reads on Figure 5 as follows:

[3] Application Serial No. 08/264,473, involved in Appeal No. 95-0517, claims another of these techniques.

> 2. A recording/reproducing apparatus for a magneto-resistive head operative in recording and reproducing modes, comprising
>
> an initial-stage amplifying means [22] for amplifying an output signal from a magneto-resistive head [MR HEAD],
>
> a variable gain type voltage-to-current converting amplifier [24A] for amplifying a differential signal between an output signal of said initial-stage amplifying means and a reference voltage [Vref1],
>
> feedback means for feeding back a dc component of an output signal from said voltage-to-current converting amplifying means[4] [24A] to an input side of said initial-stage amplifying means via a low pass filter [which is formed by the transconductance gm of amplifier 24A and the capacitance of capacitor 26[5]], and
>
> means [not shown] for selectively adjusting the gain of said variable gain amplifier at predetermined times relative to the initiation of a recording mode and to the initiation of a reproducing mode [see Fig. 9(D)].

Claim 2 reads in a similar manner on the alternative playback circuit of Figure 7.

A. The written description support issue

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[4] The antecedent for "voltage-to-current converting amplifying means" presumably is the previously recited "voltage-to-current converting amplifier" (emphasis added). The claim should be amended to remove this inconsistency.

[5] Spec. at 3:9-12.

On April 10, 1995, appellants filed a proposed correction of Figure 5 to add a box labeled "Gain Control" connected by a dashed line to the arrow on gm amplifier 24A. The examiner has disapproved that proposed drawing correction because

> it introduces new matter into the drawings. 37 CFR § 1.118 states that matter involving a departure from or an addition to the original disclosure cannot be added to the application after its filing date. The original disclosure does not support the showing of the gain control box. Instead, the specification, on lines 15-16 of page 16, states that "a gm amplifier 24[A] of the variable gain type is employed in place of the first gm amplifier 24." This disclosure does not enable a new gain control element. [Final Office action (paper No. 15) at 2.]

Inasmuch as the stated basis for the objection is new matter, which is a written description support issue, the examiner's use of the term "enable" in the last sentence of the foregoing passage is not being construed as raising lack of enablement as an issue,[6] which in any event is not a proper basis for refusing an amendment to the drawing. The examiner contends that the new matter issue raised by the drawing objection is

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[6] The "written description" and "enablement" requirements of the first paragraph of 35 U.S.C. § 112, are separate and distinct. Vas-Cath, Inc. v. Mahurkar, 935 F.2d 1555, 1563, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991); In re Wilder, 736 F.2d 1516, 1520, 222 USPQ 369, 372 (CCPA 1984).

reviewable by petition rather than appeal, citing MPEP § 608.04(c) (Answer at 3). We would agree if the examiner had not also rejected the claims under the first paragraph of § 112 on the same ground. Although the stated ground of rejection is nonenablement, the reasoning given in support of the rejection suggests that the problem is a lack of written description support (final Office action[7] at 3):

> The specification is objected to under 35 U.S.C. § 112, first paragraph, as failing to teach how to make and/or use the invention.
>
> The disclosure does not enable independent claim 2. It never mentions means for selectively adjusting the gain relative to the initiation of recording and reproducing modes. It never defines predetermined times for changing the gain of the transconductance amplifier.

Because the written description issue raised by the objection is the same as that raised by the rejection, it is appropriate under MPEP § 608.04(c) for us to consider the merits of both the objection and the rejection in this appeal.

The test for determining compliance with the written description requirement is whether the disclosure of the application as originally filed, including the original drawings, would reasonably have conveyed to the artisan that

[7] Paper No. 15.

the inventor had possession at that time of the later claimed subject matter, rather than the presence or absence of literal support in the specification for the claim language. Vas-Cath, 935 F.2d at 1563, 1565, 19 USPQ2d at 1116, 1118; In re Kaslow, 707 F.2d 1366, 1375, 217 USPQ 1089, 1096 (Fed. Cir. 1983). The subject matter of the claim need not be described identically or literally for the application to satisfy the written description requirement. Kennecott Corp. v. Kyocera Int'l Inc., 835 F.2d 1419, 1422, 5 USPQ2d 1194, 1197 (Fed. Cir. 1987), cert. denied, 108 S. Ct. 1735 (1988); Wilder, 736 F.2d at 1520, 222 USPQ at 372. An application need not describe the claim limitations in greater detail than the invention warrants; it is only necessary that the description be sufficiently clear that persons skilled in the art would have recognized that the applicant made the invention having those limitations. Martin v. Mayer, 823 F.2d 500, 505, 3 USPQ2d 1333, 1337 (Fed. Cir. 1987) (citing In re Wertheim, 541 F.2d 257, 262, 191 USPQ 90, 96 (CCPA 1976)). We agree with appellants that the original specification adequately describes "gain control" apparatus for controlling the gain gm amplifier 24A of Figure 5. As noted above, the specification

explains that the gain of that amplifier is switched to a high gm value during time intervals T1 and T2 of the waveform of Figure 9(D). This necessarily implies the use of apparatus for performing this function, which is sufficient to provide written description support for the "gain control" box shown in the proposed amendment to Figure 5. Consequently, the proposed amendment would not introduce new matter into the application.

For the same reason, we will not sustain the rejection of claims 2 and 19 under § 112, first paragraph, for lacking written support.

B. The enablement issue

Although, as noted above, the reasoning given in support of the rejection under § 112, first paragraph, suggests that the basis for the rejection is that the claimed subject matter lacks written description support, we have also considered whether it is based on an enabling disclosure. A disclosure satisfies the enablement requirement of § 112, first paragraph, if the artisan would have been able to make the claimed invention without undue experimentation. In re Vaeck, 947 F.2d 488, 495, 20 USPQ2d 1438, 1444 (Fed. Cir. 1991); In

re Wands, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988).

Appellants' specification explains that the time intervals T1 and T2 can be determined by "counting the actual time by using a CPU provided in the R/W [Read/Write] IC . . ." (Spec. at 19:12-14). The examiner has not alleged that, let alone explained why, one skilled in the art would have required undue experimentation to generate the timing signals T1 and T2 in this manner. We are therefore reversing the § 112 rejection of claim 2 and also the rejection of claim 9, which was rejected under § 112 simply because of its dependence on claim 2.

C. The § 103 rejection

Claims 2 and 9 stand rejected under 35 U.S.C. § 102(b)[8] as anticipated by the admitted prior art playback circuit shown in appellants' Figure 22 and also alternatively under § 103 as obvious over the admitted prior art. The examiner's argument for anticipation is that

> [t]he voltage to current amplifier [24 of Figure 22] would inherently have variable gain. Despite applicant[s'] allegation that the amplifier in FIG. 22 must be a fixed gain amplifier, this is not clear from the specification.
> [Final Office action at 4, lines 18-19.]

It is not clear what the examiner means when he says that the amplifier 24 in Figure 22 inherently has "variable gain." This can be construed to mean that the gain inherently will drift over time or that the amplifier inherently includes some means which will permit the gain to be adjusted. Even assuming for the sake of argument that both types of gain

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[8] The examiner's reliance on paragraph (b) of § 102 is not understood, because appellants' specification does not indicate that the playback circuit shown in Figure 22 was known or used in this country more than one year prior to appellants' effective filing date. In any event, where, as here, an appellant admits that subject matter is prior art, it is not necessary to cite a specific paragraph of § 102 in support of the rejection. In re Nomiya, 509 F.2d 566, 571 n.4, 184 USPQ 607, 611 n.4 (CCPA 1975).

variability are present, the examiner's position fails because the prior art playback circuit does not selectively adjust the gain "at predetermined times relative to the initiation of a recording mode and to the initiation of a reproducing mode," as required by claim 2. The rejection of claims 2 and 9 as anticipated by the prior art playback circuit shown in appellants' Figure 22 therefore is reversed.

The examiner's argument for obviousness, which presumes that the amplifier does not inherently have variable gain, is

> that it would have been obvious to one of ordinary skill in the art to have provided a notoriously well known and conventional variable gain type amplifier. The motivation for this modification would have been to provide a more flexible system. A fixed gain amplifier device would possess only limited utility. [Final Office action at 4-5.]

The Answer further explains (at 4, lines 5-8) that the artisan would have been motivated "to make a more flexible system, since a constant gain amplifier would be very vulnerable to fluctuations in signal level, while a variable gain amplifier could adapt to such variations." This reasoning fails to explain why the artisan would have been motivated to control the gain in the manner required by claim 2, i.e., to "selectively adjust[] the gain at predetermined times relative

to the initiation of a recording mode and to the initiation of a reproducing mode." Accordingly, the rejection of claims 2 and 9 under § 103 for

obviousness over the prior art shown in appellants' Figure 22 is also reversed.

REVERSED

KENNETH W. HAIRSTON Administrative Patent Judge	)
ERROL A. KRASS Administrative Patent Judge	) BOARD OF PATENT) APPEALS AND) INTERFERENCES
JOHN C. MARTIN Administrative Patent Judge	)

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